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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/018,867	02/27/2002	Timothy James Regan	UDL 2 0016	8474

7590 05/12/2003

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EXAMINER
SCHILLINGER, LAURA M

ART UNIT	PAPER NUMBER
2813	

DATE MAILED: 05/12/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/018,867	REGAN, TIMOTHY JAMES	
	Examiner	Art Unit	
	Laura M Schillinger	2813	

-- The MAILING DATE of this communication appears on the cover sh et with the correspondenc address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *01 April 2002* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-18* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-8 and 11-18* is/are rejected.

7)☒ Claim(s) *3,9,10 and 16* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 9 .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other:

DETAILED ACTION

Claim Objections

Claims 3 and 16 are objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form.

Claims 9 and 10 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-8, 11-18 are rejected under 35 U.S.C. 102(b) as being anticipated by DiGiacomo et al ('219).

In reference to claim 1, DiGiacomo teaches a method including the steps of:

Selecting a scaling factor (Col.9, lines: 1-22);

Scaling the entire circuit represented by the data model according to the scaling factor (Col.9, lines: 45-68, and

Adjusting each layer in the circuit for functionality and design rule compliance (Col.10, lines: 20-35 se also Col.11, lines: 20 through Col.15, line :20- providing detailed calculations for design rules).

In reference to claim 2, DiGiacomo teaches wherein the scaling factor is selected by calculating a plurality of predetermined scaling ratios and selecting a scaling factor that is equal to or greater than the largest of the predetermined scaling ratios (Col.9, lines: 5-30).

In reference to claim 3, DiGiacomo teaches wherein the scaling factor is selected by calculating a plurality of predetermined scaling ratios and selecting a scaling factor that is equal to or greater than the largest of the predetermined scaling ratios (Col.9, lines: 5-30).

In reference to claim 4, DiGiacomo teaches wherein the predetermined scaling ratios include the interconnect scaling ratio including geometry width and spacing for each routing layer, the via size ratio in each via layer and the transistor geometry ratio (Col.8, liens:: 30-45 and Col.8, line: 60 through Col.9, line: 15).

In reference to claim 5, DiGiacomo teaches wherein the data model of the IC includes a design grid and wherein the scaling factor is selected by rounding up to the next whole design grid point form the largest of the predetermined scaling ratios (Col.9, lines: 5-25).

In reference to claim 6, DiGiacomo teaches wherein the step of scaling the circuit according to the scaling factor includes multiplying the coordinates of the circuit geometry by the scaling factor (Col.9, lines: 5-25 see also Col.10, lines: 1-5).

In reference to claim 7, DiGiacomo teaches wherein the step of adjusting the circuit for functionality and design rule compliance includes a hierarchical layer scaling process where by shaped in a sub-cell of the circuit may be scaled without breaking their connections with other parts of the circuit (Col.10, lines: 20-30- preplaced components as described in Col.8, lines: 20-40 are given priority and are given reserved areas in the card see also Col.13, lines: 20-50- highest connected components are placed first).

In reference to claim 8, DiGiacomo teaches wherein the hierarchical layer scaling process includes the step of scaling the components so as to maintain the connectivity of those components (Col.8, lines: 20-40- see also Col.10, lines: 20-30- see also Col.13, lines: 20-50- highest connected components are placed first).

In reference to claim 11, DiGiacomo teaches including the additional step of updating the contacts and vias by removing the existing contacts and vias and replacing them with new contacts and vias so as to reduce the current density through those contacts and vias (Col.10, lines: 40-50).

In reference to claim 12, DiGiacomo teaches including the step of adding and/or deleting layers in accordance with the target manufacturing process (Col.9, lines: 30-50 and Col.10, lines: 40-50).

In reference to claim 13, DiGiacomo teaches including the step of checking the circuit using a layout verification process (Col.6, lines: 30-36).

In reference to claim 14, DiGiacomo teaches including a preliminary step of analyzing and modifying the circuit data (Col.2, lines: 40-55).

In reference to claim 15, DiGiacomo teaches including the step of adding a node (I/O) containing design parameters to devices in the circuit (Col.10, lines: 10-20).

In reference to claim 16, DiGiacomo teaches wherein the scaling factor is selected by calculating a plurality of predetermined scaling ratios and selecting a scaling factor that is equal to or greater than the largest of the predetermined scaling ratios (Col.9, lines: 5-30).

In reference to claim 17, DiGiacomo teaches wherein the data model of the IC includes a design grid and wherein the scaling factor is selected by rounding up to the next whole design grid point form the largest of the predetermined scaling ratios (Col.9, lines: 5-25)..

In reference to claim 18, DiGiacomo teaches wherein the data model of the IC includes a design grid and wherein the scaling factor is selected by rounding up to the next whole design grid point form the largest of the predetermined scaling ratios (Col.9, lines: 5-25).

Allowable Subject Matter

The following is a statement of reasons for the indication of allowable subject matter: .

In reference to claims 9and 10, DiGiacomo teaches the above recited claimed limitations of manipulating scaled models of IC components in order to optimize sizing and positioning. However, DiGiacomo neither teaches nor suggests applicant's claimed limitations of claims 9 and 10 wherein the step of adjusting the circuit for functionality and design rule compliance includes a transistor edge adjustment process.

When interpreting a claim, words of the claim are generally given their ordinary and customary meaning, unless it appears from the specification or the file history that they were used differently by the inventor. ***See Carroll Touch, Inc. v. Electro Mechanical Sys., Inc.***, 15 F.3d 1573, 1577, 27 USPQ2d 1836, 1840 (Fed. Cir. 1993). The phrase "transistor edge adjustment process" not known in the art and therefore the Examiner must turn to the described definition within the Applicant's specification. "Transistor edge adjustment process" is defined by the Applicant in his specification as being distinct from scaling (See page 12, first full paragraph of Applicant's specification). Applicant discloses that the transistor edge adjusting method modifies the edge dimensions of the diffusion and polysilicon and forms markers for positions where polysilicon crosses diffusion regions (See Applicant's specification, page 12).

DiGiacomo fails to teach nor suggest the transistor edge adjustment process taught by the Applicant.

Specifically DiGiacomo neither teaches nor suggests modifying the individual regions of the device and mapping their respective cross-sections in order to scale layers within the device in order to custom fit individual devices within a general IC scaled scheme.

Hall ('868) teaches designing transistors and scaling their individual layers such as polysilicon gates to obtain desired individual device characteristics, however does not teach to form markers for locations where the polysilicon crosses diffusion regions.

Therefore even in combination Hall and DiGiacomo fails to teach the transistor edge adjusting method as described by the applicant

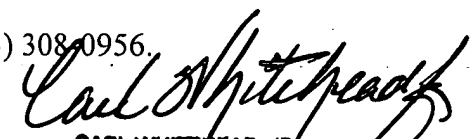
Consequently, claims 9 and 10 contain allowable subject matter.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Laura M Schillinger whose telephone number is (703) 308-6425. The examiner can normally be reached on M-T, R-F 7:00-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Carl W Whitehead, Jr. can be reached on (703) 308-4940. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-7722 for regular communications and (703) 308-7722 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.



CARL WHITEHEAD, JR.
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LMS
May 3, 2003